

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Design Flow

- A. A 4.04 General Permit allows pressurized distribution of wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
 - 1. Definition. For purposes of this Section, a “pressure distribution system” means a tank, pump, controls, and piping that conducts wastewater under pressure in controlled amounts and intervals to a disposal field, bed, trench, or other means of disposal authorized by a general permit for an on-site wastewater treatment facility.
 - 2. An applicant may use a pressure distribution systems if a gravity flow system is unsuitable, inadequate, unfeasible, or cost prohibitive because of site limitations or other conditions or if needed to optimally disperse wastewater to some types of disposal systems.
- B. Performance. An applicant shall ensure that a pressure distribution system:
 - 1. Has Department-approved dispersing components that provide proper dispersal of wastewater so that loading rates are optimized for the particular system, and
 - 2. Prevents ponding on the land surface.
- C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
 - 1. A copy of operation, maintenance, and warranty materials for the principal components; and
 - 2. A copy of dosing specifications, including pump curves, dispersing component curves, and float switch settings.
- D. Design requirements.
 - 1. An applicant shall ensure that pumps:
 - a. Are rated for effluent service by the manufacturer and certified by Underwriters Laboratories,
 - b. Achieve the minimum design flow rate and total dynamic head requirements for the particular site, and
 - c. Incorporate a quick disconnect using compression-type unions for pressure connections. The applicant shall ensure that:
 - i. Quick-disconnects are accessible in the pressure piping, and
 - ii. A pump has adequate lift attachments for removal and replacement of the pump and switch assembly without entering the dosing tank.
 - 2. Switches, controls, alarms, and electrical components. An applicant shall ensure that:
 - a. Switches and controls accommodate the minimum and maximum dose capacities of the distribution network design. Pressure diaphragm level control switches are prohibited;
 - b. Controls designed for fail-safe treatment or flow equalization functions are field-tested to assure compliance with the design and operation specifications. The applicant shall include counters or flow meters if critical to control functions, such as timed dosing;
 - c. Control panels and alarms:
 - i. Are mounted in an exterior location visible from the dwelling,
 - ii. Provide manual pump switch and alarm test features, and
 - iii. Include written instructions covering standard operation and alarm events.
 - d. Audible and visual alarms are used for all critical control functions, such as pump failures, treatment failures, and excess flows. The applicant shall ensure that:
 - i. The visual portion of the signal is conspicuous from a distance 50 feet from the system and its appurtenances,
 - ii. The audible portion of the signal is between 70 and 75 db at 5 feet and is discernible from a distance of 50 feet from the system and its appurtenances, and
 - iii. Alarms, test features, and controls are on a non-dedicated electrical circuit associated with a frequently used household lighting fixture and separate from the dedicated circuit for the pump.
 - e. All electrical wiring complies with the National Electrical Code, 1999 Edition, published by the National Fire Protection Association. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101. The applicant shall ensure:
 - i. Connections are made using National Electrical Manufacturers Association (NEMA) 4x junction boxes certified by Underwriters Laboratories; and

- ii. All controls are in NEMA 3r, 4, or 4x enclosures for outdoor use.
- 3. Dosing tanks and wastewater distribution components. An applicant shall:
 - a. Design dosing tanks to withstand anticipated internal and external loads under full and empty conditions, and design concrete tanks to meet the "Standard Specification for Precast Concrete Water and Wastewater Structures," published by the American Society for Testing and Materials, (C 913-98), approved December 10, 1998. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959;
 - b. Design dosing tanks to be easily accessible and have secured covers;
 - c. Install risers to provide access to the inlet and outlet of the tank and to service internal components;
 - d. Ensure that the volume of the dosing tank accommodates bottom depth below maximum drawdown, maximum design dose, including any drainback, volume to high water alarm, and a reserve volume above the high water alarm level that is not less than the daily design flow volume. If the tank is time dosed, the applicant shall ensure that the combined surge capacity and reserve volume above the high water alarm is not less than the daily design flow volume; and
 - e. Ensure that dosing tanks are watertight and anti-buoyant.
- E. Installation requirements. An applicant may use a septic tank second compartment or a second septic tank in series as a dosing tank if all dosing tank requirements of this Section are met and a screened vault is used instead of the septic tank effluent filter. An applicant shall:
 - 1. Install switches, controls, alarms, and electrical components for easy access for routine monitoring and maintenance; and
 - 2. Compact berms around the disposal area to 85% and ensure that the berms are adequate to retain wastewater and rainwater from a 10-year, 24-hour rainfall event within the disposal field.
- F. Additional Verification of General Permit Conformance requirements. An installer shall provide copies of instructions for the critical controls of the system to the homeowner and the Department before issuance of the Verification of General Permit Conformance.
- G. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, a permittee shall ensure that:
 - 1. The operation and maintenance plan for the on-site wastewater treatment facility that supplies the wastewater to the pressure distribution system specifies inspection and maintenance needed for the following items:
 - a. Sludge level in the bottom of the treatment and dosing tanks,
 - b. Watertightness,
 - c. Condition of electrical and mechanical components, and
 - d. Piping and other components functioning within design limits.
 - 2. All critical control functions are specified in the Operation and Maintenance Plan for testing to demonstrate compliance with design specifications, including:
 - a. Alarms, test features, and controls;
 - b. Float switch level settings;
 - c. Dose rate, volume, and frequency, if applicable;
 - d. Distal pressure or squirt height, if applicable; and
 - e. Voltage test on pumps, motors, and controls, as applicable.
 - 3. The finished grade is observed and maintained for proper surface drainage. The applicant shall observe the levelness of the tank for differential settling. If there is settling, the applicant shall grade the facility to maintain surface drainage.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).